

REMARKS / DISCUSSION OF ISSUES

Claims 1-45 are pending in the application. Claims 1-11 are withdrawn from consideration at this time.

Rejections under 35 U.S.C. § 102

Claims 29-45 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by *Nishimura, et al.* (US PAP 2002/0094063). For at least the reasons set forth below, Applicants respectfully submit that claims 29-45 are patentable over the applied art.

A proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

Claim 29 recites:

A device, comprising:

a radiation source; and

a filter for retaining a substance originating from the radiation source, the filter comprising:

a thin layer that is transparent to ultraviolet and/or X-ray radiation, and

a support structure for the thin layer, wherein the support structure comprises molybdenum, zirconium carbide (ZrC), zirconium dioxide, silicon carbide (SiC), boron nitride (BN), or a combination thereof.

In rejecting claim 29, the Office Action directs Applicants to a filter ‘6’ and a support structure allegedly disclosed in paragraphs [0122], [0126] and [0127] of the applied art. Notably, there is no reference character ‘6’ designating a filter. Moreover, there is no disclosure of a filter transparent to UV and/or X-ray radiation. The filter described in paragraph [0127] is disclosed as:

[0127] In the laser plasma EUV light source apparatus having the shield device 6, the electromagneticwave generated is irradiated to the shield portion 62 after passing through opening of the shield plate 57. At the shield portion 62, the electromagneticwave is irradiated on one window 65 positioned on the optical axis Q, permeates the silicon nitride film 68 and the silicon oxide film 69 in this order through the opening 66, and is irradiated to the plane image-forming type incidence spectroscop 5. The debris, being shielded by the shield plate 57 and the shield portion 62, is prevented from entry into the plane image-forming type incidence spectroscop 5. At the window 65 of the shield portion 62, **a filter is constructed by lamination of the silicon nitride film 68 and the silicon dioxide film 69, and the window 65 has the smallest opened area needed.** For this reason, the shield portion 62 has sufficient intensity against collision of the debris and has excellent durability. (Emphasis added.)

Thus, there is no disclosure of the support structure for the claimed thin layer. As such, the applied art fails to disclose at least one feature of claim 29, and a prima facie case of anticipation cannot be established based on *Nishimura, et al.*

Claim 40 recites:

A device, comprising:

a radiation source; and

a filter for retaining a substance originating from the radiation source, the filter consisting of a single thin layer that is transparent to ultraviolet and/or X-ray radiation, wherein the thin layer comprises zirconium, niobium, silicon, molybdenum, zirconium carbide (ZrC), zirconium dioxide, silicon carbide (SiC), boron nitride (BN), or a combination thereof.

For reasons substantially identical to those discussed above in connection with claim 29, Applicants respectfully submit that the applied art fails to disclose at least one feature of claim 40.

Rejections under 35 U.S.C. § 103

Claims 12-28 were rejected under 35 U.S.C. § 103(a) as allegedly being anticipated by *Nishimura, et al.* in view of *Hayashida, et al.* (US Patent 5,444,753). For at least the reasons set forth below, Applicants respectfully submit that claims 29-45 are patentable over the applied art.

A *prima facie* case of obviousness has three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, requires some reason that the skilled artisan would modify a reference or to combine references.¹ The Supreme Court has, however, cautioned against the use of “rigid and mandatory formulas” particularly with regards to finding reasons prompting a person of ordinary skill in the art to combine elements in the way the claimed new invention does.² But rather the Supreme Court suggests a broad, flexible “functional approach” to the obviousness analysis recognizing that “[i]n many fields it may be that there is little discussion of obvious techniques or combinations.”³ Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the same time the invention was made. In other words, a hindsight analysis is not allowed.⁴ Lastly, the prior art

¹ See *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332 (Fed. Cir. 2005) (“[S]imply identifying all of the elements in a claim in the prior art does not render a claim obvious.”).

² See *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007) (“The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents.”).

³ *Id.* See also *Id.* at 1743 F. 3d 1356 (Fed. Cir. 2006) (“Our suggestion test is in actuality quite flexible and not only permits, but *requires*, consideration of common knowledge and common sense”) (emphasis in original).

⁴ See *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200 (Fed. Cir. 1991) (“Hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious.”).

reference or combination of references must teach or suggest all the limitations of the claims.⁵

In *KSR* the Court stated “A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.”⁶ Moreover, if there is no suggestion to combine the teachings of the applied art, other than the use of Applicants’ invention as a template for its own reconstruction, a rejection for obviousness is improper.⁷ In furtherance to the need for the suggestion to combine the teachings of the applied art, it is established that rejections on obviousness grounds cannot be sustained by mere conclusory statements: instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.⁸

Claim 12 recites:

A device, comprising:

a radiation source; and

a filter for retaining a substance originating from the radiation source, the filter including a thin layer that is transparent to ultraviolet and/or X-ray radiation, wherein the thin layer comprises molybdenum, zirconium carbide (ZrC), zirconium dioxide, silicon carbide (SiC), boron nitride (BN), or a combination thereof.

The Office Action concedes that *Nishimura, et al.* fails to disclose thin layer comprises molybdenum, zirconium carbide (ZrC), zirconium dioxide, silicon carbide (SiC), boron nitride (BN), or a combination thereof, and turns to *Hayashida, et al.* in an

⁵ See *In re Wilson*, 424 F.2d 1382 (C.C.P.A. 1970) (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”).

⁶ See *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966) (warning against a “temptation to read into the prior art the teachings of the invention in issue” and instructing courts to “guard against slipping into the use of hindsight”) (quoting *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (CA6 1964)).

⁷ See *Ex parte Crawford, et al.* Appeal 20062429, May 30, 2007.

⁸ *KSR Int’l v. Teleflex*, 127 S. Ct. at 1741.

attempt to cure this deficiency. In particular, the Office Action directs Applicants to column 2, lines 49-56 of *Hayashida, et al.* and asserts:

“It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the transmission filter of Nishimura with the transmission material as taught by Hatashida, since it would provide benefit over the other.”

Applicants respectfully submit that no articulated reasoning with some rational underpinning to support the legal conclusion of obviousness is provided, and as such no reason is given as to why one skilled in the art would have been motivated to combine the applied art. Furthermore, as noted above, if there is no suggestion to combine the teachings of the applied art, other than the use of Applicants’ invention as a template for its own reconstruction, a rejection for obviousness is improper. Here, no motivation is provided in support of the combination.

For at least the reasons set forth above, Applicants respectfully submit that the combination of references is improper. As such, a *prima facie* case of anticipation has not been established. Because the Office Action has failed to shoulder the initial burden, claim 12 is patentable over the applied art.

General Comments on Rejections of Dependent Claims

Since each of the dependent claims depends from a base claim that is believed to be in condition for allowance, Applicant believes that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicant does not, however, necessarily concur with the interpretation of any dependent claim as set forth in the Office Action, nor do Applicant concurs that the basis for the rejection of any dependent claim is proper. Therefore, Applicant reserves the right to specifically address the patentability of the dependent claims in the future, if deemed necessary.

Conclusion

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
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